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1 November 1964


APPENDIX BProposed Input

In order to simplify the input circuitry of the chip printer, and also to be able to present the accession number in any possible order, it is proposed that the input tape be preceded by the information required to operate the chip printer, then followed by the accession number. In this way the information in the accession number need not be finalized at this date and could be changed at any time without effecting any circuits in the Chip Printer Unit. The following is a proposed method of presenting this data.

<u>Message Position</u>	<u>Message Symbol</u>	<u>Description</u>
1	S ₁	Information Separator
2	Plus or Minus	Sign of X position
3	number	Most Significant Digit (MSD) of X
4	number	Second MSD of X
5	number	Third MSD of X
6	number	LSD of X
7	S ₇	Information Separator
8	Plus or Minus	Sign of Y position
9	number	MSD of Y
10	number	Second MSD of Y

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<u>Message Position</u>	<u>Message Symbol</u>	<u>Description</u>
11	number	Third MSD of Y
12	number	LSD of Y
13	S ₇	Information Separator
14	number	MSD of Azimuth
15	number	Second MSD of Azimuth
16	number	Third MSD of Azimuth
17	number	LSC of Azimuth
18	S ₇	Information Separator
19	number	MSD of the number that represents a security class
20	number	LSD of the number that represents a security class
21	S ₇	Information Separator
22	number	MSD of the number of prints
23	number	LSD of the number of prints
24	CR	Carriage Return
25	LF	Line Feed
26	SOM	Start of Message
27 to (82)	Alpha Numeric	56 Position Accession Number

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<u>Message Position</u>	<u>Message Symbol</u>	<u>Description</u>
83	CR	Carriage Return
84	LF	Line Feed
85 up to 152	Alpha Numeric	Up to 68 Machine Readable Codes Only
153	S ₇	Information Separator
154	number	MPC Parity Check
155	number	MPC Parity Check
156	EOT	End of Transmission

The first 25 positions on the input tape will be used to control the Chip Printer. The 27th to the 82nd character (56 Alpha-numeric characters) will be printed in human readable form on the output film chip. The 26th to the 82nd will be printed in machine readable form. The 83rd and 84th characters will not be printed but will be used to control the teletype unit. From tape position number 85 on to position 152 (a maximum of 68 characters) the user could add machine readable codes only. If the user puts in a full 68 characters, then the 153rd character will be an information separator (S₇) symbol. This character will not be printed out on the output film. The 154th and 155th character will be the MPC parity check sum, which will be printed out. The 156th character will be the End of Transmission symbol, which will also be printed out. If the user had decided not to use the full 68 machine readable characters, then the tape position following the last character used will be the Information Separator symbol (which will not be printed out) followed by the two (2) MPC parity checks and the End of Transmission symbol.

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The American Standard Code, as shown in the attached sheet, will be used with an even parity conversion. As shown in the attached sheets marked X3.3.3, the American Standard Code specifies an even parity for punched paper tape.

The Teletype model 35AW, which has two sprocket feed paper tape readers beside the paper tape punch and the hard copy print out, will be what is required as the input device. This unit has an output of character parallel and will have separate punch and reader operator controls.

Film Positioning

The X position will have a \pm or - sign conversion, which will indicate positive (\pm) going to the right of the fiducial and negative (-) going to the left of the fiducial. The Y value will be measured negative (-) going down from the top fiducial and positive (\pm) measuring up from the lower fiducial. When working with the 5 inch or 70mm two channel condition, it will be the responsibility of the operator to position the chip magazine over the proper channel and to the proper upper or lower fiducial, then press a button to indicate which channel the measurement will be made on. If two measurements are to be made on the same frame using the same starting fiducial, then the operator would continue his operation without having to reset his counters or realign his starting point.

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CPYRGHT

X3.3.3/5.

April 7, 1964

TASK GROUP DOCUMENT

X3.3.3

WORKING PAPER

Character Structure for Serial-by-Bit
Data Transmission in the American Standard Code for
Information Interchange

Prepared By:

Task Group 3

Data Transmission Formats

Subcommittee X3.3 on Data Transmission

ASA Sectional Committee X3 on Data Processing Standards

DRAFT 1

April 1964

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3.3 Character Parity Sense

3.3.1 Media Characteristics and Requirements

3.3.1.1. Punched Paper Tape

The proposed American Standard Perforated Tape Code for Information Interchange (X3.2/16-Dec. 19, 1963)

specifies even parity per character so that ~~XXXXXX~~ the characters ~~XXXXXX~~ NULL and DELETE ~~XXXXXX~~ retain the all "0"'s and all "1"'s combinations ~~XXXXXX~~ respectively, including parity.

It is expected that even parity will be used in Edged Punched Cards for the same reason.

3.3.1.2 Magnetic Tape

The proposed American Standard-Recorded Magnetic Tape for Information Interchange (X3.2/73, Jan. 31, 1964) specifies odd parity so that the NULL character may be recorded on magnetic tape.

3.3.1.3 12-Row Punched Cards

The representation of ASCII in punched cards is still under consideration and as yet there are no parity requirements in 12-row punched cards unless it is decided that ASCII be represented in direct binary.

In the case of direct binary representation of ASCII in punched cards even parity would be required, for the same reasons as in Section 3.3.1.1, to handle the NULL and DELETE characters.

CPYRGHT

American Standard Code for Information Interchange

1. Scope

This coded character set is to be used for the general interchange of information among information processing systems, communication systems, and associated equipment.

2. Standard Code

b ₇		0	0	0	0	1	1	1	1	
b ₆		0	0	1	1	0	0	1	1	
b ₅		0	1	0	1	0	1	0	1	
b ₄										
b ₃										
b ₂										
b ₁										
0	0	0	0	0	0	0	0	0	0	
0	0	0	1	0	0	0	0	0	0	NULL
0	0	1	0	0	0	0	0	0	0	DC ₀
0	0	1	1	0	0	0	0	0	0	!
0	1	0	0	0	0	0	0	0	0	SOM
0	1	0	1	0	0	0	0	0	0	DC ₁
0	1	1	0	0	0	0	0	0	0	"
0	1	1	1	0	0	0	0	0	0	2
0	1	1	1	1	0	0	0	0	0	EOA
0	1	1	1	1	1	0	0	0	0	DC ₂
0	1	1	1	1	1	1	0	0	0	#
0	1	1	1	1	1	1	1	0	0	3
0	1	1	1	1	1	1	1	1	0	EOOM
0	1	1	1	1	1	1	1	1	1	DC ₃
0	1	1	1	1	1	1	1	1	1	\$
0	1	1	1	1	1	1	1	1	1	4
0	1	1	1	1	1	1	1	1	1	EOT
0	1	1	1	1	1	1	1	1	1	DC ₄ (STOP)
0	1	1	1	1	1	1	1	1	1	%
0	1	1	1	1	1	1	1	1	1	5
0	1	1	1	1	1	1	1	1	1	WRU
0	1	1	1	1	1	1	1	1	1	ERR
0	1	1	1	1	1	1	1	1	1	%
0	1	1	1	1	1	1	1	1	1	6
0	1	1	1	1	1	1	1	1	1	RU
0	1	1	1	1	1	1	1	1	1	SYNC
0	1	1	1	1	1	1	1	1	1	&
0	1	1	1	1	1	1	1	1	1	7
0	1	1	1	1	1	1	1	1	1	BELL
0	1	1	1	1	1	1	1	1	1	LEM
0	1	1	1	1	1	1	1	1	1	(APOS)
0	1	1	1	1	1	1	1	1	1	8
0	1	1	1	1	1	1	1	1	1	FE ₀
0	1	1	1	1	1	1	1	1	1	S ₀
0	1	1	1	1	1	1	1	1	1	(
0	1	1	1	1	1	1	1	1	1	9
0	1	1	1	1	1	1	1	1	1	HT
0	1	1	1	1	1	1	1	1	1	SK
0	1	1	1	1	1	1	1	1	1)
0	1	1	1	1	1	1	1	1	1	S ₁
0	1	1	1	1	1	1	1	1	1	*
0	1	1	1	1	1	1	1	1	1	:
0	1	1	1	1	1	1	1	1	1	J
0	1	1	1	1	1	1	1	1	1	Z
0	1	1	1	1	1	1	1	1	1	+
0	1	1	1	1	1	1	1	1	1	:
0	1	1	1	1	1	1	1	1	1	K
0	1	1	1	1	1	1	1	1	1	C
0	1	1	1	1	1	1	1	1	1	FF
0	1	1	1	1	1	1	1	1	1	S ₄
0	1	1	1	1	1	1	1	1	1	(COMMA)
0	1	1	1	1	1	1	1	1	1	<
0	1	1	1	1	1	1	1	1	1	L
0	1	1	1	1	1	1	1	1	1	\
0	1	1	1	1	1	1	1	1	1	-
0	1	1	1	1	1	1	1	1	1	=
0	1	1	1	1	1	1	1	1	1	M
0	1	1	1	1	1	1	1	1	1	J
0	1	1	1	1	1	1	1	1	1	.
0	1	1	1	1	1	1	1	1	1	>
0	1	1	1	1	1	1	1	1	1	N
0	1	1	1	1	1	1	1	1	1	↑
0	1	1	1	1	1	1	1	1	1	←
0	1	1	1	1	1	1	1	1	1	SI
0	1	1	1	1	1	1	1	1	1	S ₇
0	1	1	1	1	1	1	1	1	1	/
0	1	1	1	1	1	1	1	1	1	?
0	1	1	1	1	1	1	1	1	1	0
0	1	1	1	1	1	1	1	1	1	←
0	1	1	1	1	1	1	1	1	1	DEL

3. Positional Order and Notation

Standard 7-bit set code positional order and notation are shown below with b₇ the high-order, and b₁ the low-order, bit position.

EXAMPLE: The code for "R" is:

b ₇	b ₆	b ₅	b ₄	b ₃	b ₂	b ₁
1	0	1	0	0	1	0

4. Legend

NULL	Null/Idle	DC ₁ -DC ₃	Device control
SOM	Start of message	DC ₄ (Stop)	Device control (stop)
EOA	End of address	ERR	Error

Legend continued on following page